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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,791	12/24/2003	Shang-Hyeun Park	030681-613	9820
21839	7590	01/29/2007	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC			GUHARAY, KARABI	
POST OFFICE BOX 1404			ART UNIT	PAPER NUMBER
ALEXANDRIA, VA 22313-1404			2879	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/743,791	PARK ET AL.
	Examiner Karabi Guharay	Art Unit 2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Amendment, filed on 22 September 2006.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

Response to Amendment

Response, filed on 22 September 2006 has been considered and entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites a trademark or trade name, thus the scope of the claim is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. In fact, the value of a trademark would be lost to the extent that it became descriptive of a product, rather than used as an identification of a source or origin of a product. Thus, the use of a trademark or trade name in a claim to identify or describe a material or product would not only render a claim indefinite, but would also constitute an improper use of the trademark or trade-name.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Duboc, Jr et al. (US 5541473).

Regarding claim 1 Duboc et al. discloses a field emission device (see Fig 2) comprising an anode plate (220) where an anode electrode (221) and a fluorescent layer (222a, 222b) are formed; a cathode plate (201) where an electron emission source (202a, 202b) emitting electrons toward the fluorescent material layer and a gate electrode (212b) having a gate hole (211a, 211b) through which electrons travel; mesh grid (214-218, lines 23-44 of column 6, see grids of US 5424605 also see Fig 7E) having an electron control hole corresponding to the gate hole (211a, 211b) and adhered to the cathode plate, and an insulation layer (213) formed on a surface of the mesh grid (214) facing the cathode plate (see figure 1); and spacers (230) provided between the anode plate and the mesh grid (see figure 1) and the mesh grid is adhered to the cathode plate.

Though it is not explicitly specified that the spacers provide adherence of the grid to the cathode plate due to negative pressure existing between the anode plate and the cathode plate, Duroc Jr teaches indirectly that the insulating spacer 230 supports the force caused by the differential pressure between the internal vacuum pressure and the external atmospheric pressure outside the flat CRT, further teaches that in FIG. 2, the spacer 230 is long compared to the spacing of prior art flat CRTs which use proximity focusing, which implicitly indicates that the adherence of grid close to the cathode plate is possible due to the negative pressure existing between anode and cathode plate and the spacer hold the mesh grid in that position that is the reason for having a long spacer (see lines 37-46 of column 8).

Regarding claims 3 & 5, Duroc Jr. discloses that the insulating layer (213) formed on the mesh grid (214-218), and directly contacts the mesh grid, and is formed of ceramic (lines 56-59 of column 7), which includes silicon dioxide, further recitation "formed by printing" is drawn to a process of manufacturing which is incidental to the claimed apparatus.

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product. It is well established that a claimed apparatus cannot be distinguished over the prior art structure by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject process limitation is not afforded patentable weight (see MPEP 2113).

Regarding claims 2, Duroc teaches that grid is formed of thick metals, however, does not specifically mention invar. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use invar, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. See MPEP 2144.07.

Regarding claims 4 & 6, Duroc Jr. discloses that the insulating layer (213) formed on the mesh grid (214-218), and directly contacts the mesh grid, and is formed of ceramic (lines 56-59 of column 7), which includes silicon dioxide, further recitation "formed by printing" is drawn to a process of manufacturing which is incidental to the claimed apparatus.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection presented above.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Guharay
Karabi Guharay
Primary Examiner
Art Unit 2879

1/22/07